RENFREW MANUFACTURING COMPANY MILL No. 2
(Arnold Print Works)
217 Columbia Street
Adams
Berkshire County
Massachusetts

HAER No. MA-122

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
Northeast Region
U.S. Custom House
200 Chestnut Street
Philadelphia, PA 19106

HAER MASS 2-ADAM, 2-

HISTORIC AMERICAN ENGINEERING RECORD

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(Arnold Print Works) HAER No. MA-122

Location: 217 Columbia Street (State Route 8) and Renfrew Street, Adams, Berkshire County, MA

USGS North Adams, Quadrangle, Universal Transverse Mercator Coordinates: 18.654810.4722000

Date of Construction: 1867-1868, et. seq.

Engineer/Architect: Unknown

Present Owner: Northern Berkshire Industrial Park and Development Corporation
40 Main Street
North Adams, Massachusetts 01247

Present Use: Former textile factory; now vacant; demolition planned in 1993/1994

Significance: The Renfrew Manufacturing Company Mill No. 2 of 1867-1868 et seq. is significant as an architecturally distinguished example of late nineteenth century Italianate style mill design. In addition, it possesses important historical associations with several of Adams' leading industrialists of the nineteenth century and was the main mill of the town's largest industry for several decades after its founding. A devastating fire in 1984 destroyed most of the more than 25 late-nineteenth-and twentieth-century buildings in the complex. Today, only the main Mill No. 2 and several ancillary buildings remain.

Project Information: The Renfrew Mill complex has been vacant since 1984 and is now owned by the Northern Berkshire Industrial Park Development Corporation (NBIPDC). It was listed in the National Register of Historic Places in 1982. Most of the large 25-building mill complex was destroyed by fire in 1984, and attempts to identify a new owner and reuse for the surviving main Mill No. 2 building have been unsuccessful. The property is being developed as a mixed-use business park with federal funding assistance from the Farmers Home Administration. Following extensive consultation with the Massachusetts State Historic Preservation Officer and the Advisory Council on Historic Preservation, as mandated by the National Historic Preservation Act of 1966 as amended, a Memorandum of Agreement was executed in 1991 requiring HABS/HAER docmentation as a mitigation measure. The building is slated for demolition.

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I. DESCRIPTIVE INFORMATION

Location and Setting

The Renfrew Manufacturing Company Mill No. 2 is located on a level 5.8-acre site within the former Renfrew Manufacturing Company property of approximately 32 acres. The larger property is bounded east by the Hoosic River, north by Lime Street, west by the 8oston & Maine rail line and Columbia Street (State Route 8), and south by woodland and a residential neighborhood. The building is set back 360 feet from Route 8, one of two primary north-south connectors in 8erkshire County, and is highly visible from the road. The site is located one mile north of the Adams central business district and five miles south of North Adams, the major population center in northern 8erkshire County. The setting immediately around the mill is a barren landscape, as the result of fire (1984), demolition, filling of the former mill pond south of the mill, and volunteer vegetation. A new access road runs south from Lime Street east of the mill. Renfrew Street extends from Columbia Street, crosses the railroad track opposite the center of the mill, and then veers south as a new road to join the access road. Two new office buildings have been constructed on the former mill property, and more are planned as the site is converted to a mixed-use office park.

The name Renfrew Manufacturing Company Mill No. 2 refers both to the entire former manufacturing complex of connected buildings and to the extant main No. 2 mill building. The building consists of Mill No. 2 and two connected buidings: a Picker House (No. 4; ca. 1867-1868) and an Auto Garage (No. 29; between 1914 and 1921). A freestanding chimney (between 1893 and 1905) is located north of the mill, and a loading bay shed (unnumbered; ca. 1950) is attached to the Picker House. Other notable site features include the headrace on the east side at the south end of the building and the waste way and tail race channel that runs along the west side of the building. Both were fed by a large storage pond south of the mill that has been filled. Remaining historic mill buildings and structures within the larger property include a small, wood-frame pond gate house/hose reel house (late 19th century), the main brick gate house (No. 3; ca. 1886), the brick Renfrew Railroad Station (ca. 1880), a wood-frame baggage house (ca. 1880), three brick store houses (late 19th century), a small brick pump house (between 1914 and 1921), and a 125,000-gallon steel water tank (ca. 1929). The Renfrew Mill No. 2 complex was placed on the National Register of Historic Places is 1982. Brick row housing constructed by the company in the 1860s is located south of the mill on Columbia Street.

Original Appearance and Operations, Summary of Modifications, and Development of Surrounding Complex

Renfrew Mill No. 2 is the main mill of a former complex that grew to 25 buildings between 1867 and the mid-twentieth century. The mill and Picker House formed the initial cotton processing and spinning core of the complex from their construction through 1927. The pond drew water, for power and processing, through an underground pipe from the Hoosic Pond/Reservoir south of the proerty, and tailrace water channeled back to the South Branch of the Hoosic River north of the mill (Beers 1876; Miller 1894). Mill No. 2 was intended for the production of gingham cloth and was equipped with both steam and water power systems. Gingham continued as the mainstay of production until the 1880s when they passed out of fashion and the mill was converted to manufacture other types of cotton cloth as well.

When originally constructed in 1867-1868, the Renfrew Manufacturing Company Mill No. 2 was described as a three-story, brick building measuring 150 by 66 feet. A brick, fire proof Picker House (50 by 60 feet) and a brick Dry House (160 by 30 feet) adjoined the mill. The mill was equipped with

216 looms and machinery from the Lowell machine shops, all powered by two water-driven turbine wheels of 260 horse power each (Berkshire County Eagle, December 31, 1868). Although no early plans have been located, this description, with length dimension of 150 feet, along with observed construction features (see below), indicate that the mill was constructed in two phases with the oldest being the northern half of the building. It would have included the northern stair tower and ended just north of the central lavatory tower on the west side. An early construction era (ca. 1868) photograph, however, shows the entire mill building completed with the roof of the main tower under construction and no windows yet installed in the Picker House. It is likely that the construction took several years, which may account for the slight discrepancy between the newspaper description and the historic view. The Picker House was a separate structure sited so that its southeast corner abutted the northwest corner of the main mill. The head race flowed along the east side of the building from the pond south of the mill to the turbine pits north of the mill. The power canal crossed the north end of the building, then the tail race angled northwest to flow into the South Branch of the Hoosic River. It is likely that the pits were not enclosed and that the Engine House section of the north end of the mill had not been erected.

8y 1876 (Beers 1876), and probably shortly after the initial phase of construction, the mill was enlarged to its present size of 366 feet with three towers on the west elevation and a 50 by 54-foot, three-story Engine House at the north end above the turbine pits (8arlow 1878; Jenkins and Pfeiffer 1982). It covered all but the western-most bay of the north end. Between 1886 and 1893, the elevator tower at the center of the east elevation was constructed, a dust chimney was added to the north side of the Picker House, and a small, one-story passage built across the western bay of the Mill's north end connected the Engine House, Picker House, and Mill. The interior of the Engine House was also modified to accomodate a machine and carpentry shop (Insurance Plans 1886 and 1893).

Notable design features of the building at this time were a tall hip roof and cupola that capped the central tower (removed) and the iron fire escapes remaining on the building today. A separate Weave Shed (1878; 333 by 136 feet) had been constructed north of Mill No. 2 with a long Finishing Building, Store House, and Dye House (ca. 1890-1894) extension parallel to the east side of the mill. The mill itself contained spinning and related machinery. The Picker House functioned as the location for opening bales and picking cotton. Provision for steam power was initiated simultaneously with the establishment of the mill, and the boiler house and square brick chimney (ca. 1867-1878) providing steam power, were located to the north. The machinery powered by steam and water and operated via a system of shafts, belts, and pulleys until the 1930s. Other buildings of the complex included the Office (ca. 1885), Renfrew Railroad Station, No. 3 Gate House, and several smaller outbuildings.

The period from 1893 to 1905 was one of major improvements to the mill complex. At Mill No. 2, the remaining open area between the Picker House and the Engine House was infilled with a three-story, brick addition that expanded the size of the Picker House on the first floor and the Mill on the second and third floors. A new stair tower was added to the northeast corner of the mill, and a shed roofed Waste House built along the north side of the Picker House connected it with other buildings to the north (Insurance Plans 1893 and 1905). Electricity was also introduced as a supplement to the existing water and steam power supply. It involved the construction of a circular brick chimney (extant). The cluster of buildings east of the mill underwent some reorganization and enlargement of the Dyeing, Drug House, and Yarn Building spaces.

In 1914, Renfrew Mill No. 2 contained (north to south), on the first floor: carding, railway heads, and fly frames; on the second floor: dressing and beaming; and on the third floor: spooling, warping, and twisting (Insurance Plan 1914). In 1921, the mill's functions (north to south) consisted of an opener room on the first floor of the Engine House section, and carders, drawers, slubbers, speeders, and fly

frames on the first floor of the main mill. The second floor had ring spinning and beaming, while the third floor had ring spinning, winding, spooling, warping, and twisting.

Between 1914 and 1921, an Auto House was added to the extreme south end of the west side of Mill No. 2, but otherwise few changes were made to the mill building (Insurance Plan 1921). The Yarn Building was exended eastward, and a new Bleach House was added to the north side of the complex.

Between 1927 and 1929, a number of modifications were made, including elimination of the water power capabilities, along with the conversion of Mill No. 2 to a Maintenance Building, and the Picker House (No. 4) to Shipping. Most of these changes occurred between the sale of the plant at auction in 1927 and its reopening under new ownership in 1929. A new sand filtration system to cleanse pond water for processing was constructed (1927-1929). It included the steel water tank adjacent the east side, along with three concrete holding/settling tanks with piping and pumps within the south end of the first floor interior. The dust chimney on the north side of the Picker House was expanded to accomodate an elevator. On the mill, the hip roof of the central tower was removed and replaced with a flat roof. Within the mill, the fire wall dividing the north and south halves of the building was installed. In addition, the water power system of the mill was completely remodelled with the installation of an iron pipe within the flume, removal of the turbine wheels, and partial filling of the head race, turbine pits, and tail race. The pipe measured 24 inches in diameter as it left the Gate House and tapered to 14 inches as it ran under the Engine House (Insurance Plans 1921 and 1929; Freeman & Co. 1927).

Throughout the rest of the complex, there was minimal new construction, but the function of most buildings changed to reflect the plant's new role in fabric printing. Only the Bleach House and some secondary buildings retained their earlier functions. The Weave House became the Finishing Room; the former machine and carpenter shop became the Rope Soaper Building; the Bleach House and Drug House became White Stock Rooms; the Yarn Building was converted to the White Room; the Finishing Building was used for Printing, and a Color Shop was reassigned as a Color Shop, Padding Building, and Drug Building. During this period, two new metal chimneys were installed and the original square brick chimney was taken down.

In 1929, the new assigned functions in Mill No. 2 (north to south) were: machine and carpenter shop pipe and electric shop, and water filtration (first floor); storage of cloth in wood cases and management of open stock orders and shipping (second floor); and storage of cloth in paper packages (third floor). The Picker House housed storage of wood carts and shipping on the first floor and the same functions as Mill No. 2 on the upper floors (Insurance Plan 1929).

By 1957, the machine and carpenter shop had moved to the very south end of the first floor of Mill No. 2, sharing the south half of the building with the pipe and electric shop. The remainder of the building was used for storage of cloth and shipping (Insurance Plan 1929, amended 1949, 1957).

The only major addition to Renfrew Mill No. 2 after 1929 was a covered Loading Platform at the west end of the Picker House. It was probably added ca. 1950 (Insurance Map, 1929, amended through 1957).

Present Appearance

Exterior

The Renfrew Mill No. 2, constructed in 1867-1868 et seq., is a three-story red brick structure (350 by 66 feet) with heavy timber framing. It rises from a marble plinth and is enclosed by an asphalt-sheathed, low-pitched gable roof. The walls are laid up in running bond and range from 21 to 12 inches (base to roof) in thickness. Iron tie rods with decorative plates are located between each bay midway between the second and third stories. Overall the condition of the exterior masonry and the windows is fair. The roof is in fair to poor condition, and one area near the south end of the west elevation is severely deteriorated, with crumbling cornice and exfoliating walls.

The building's facade faces west and is slightly asymmetrical. The central tower is flanked northward by eight bays, a smaller (17 by 17 foot) stair tower, and eight additional bays, and southward by nine bays, a smaller (17 by 17 foot) stair tower, and fifteen bays. Each bay contains at each story one 12/12 flathead wood window (99 by 48 inches) set in an undecorated, double-header-course, segmental-arch surround with a rough-face slate sill. The heads of the third story windows are set into a corbelled cornice which extends around the building and forms a label molding at each window. The wood sash on this facade and the other sides of the building consists of original sash and replacement sash (1927-1929) with slightly heavier profiles. Red paint which may be original is visible on the older sash. Three original wrought iron fire escapes are located on the central bays between each of the towers and between the south tower and the south end of the building. They have curved decorative angle supports, but are otherwise plain. A firewall parapet (added 1927-1929) extends above the roof line immediately north of the center tower.

On the west elevation, the north end of the mill is connected to the Picker House, Building No. 4 (see description below), and the south end to a small Auto House, Building No. 29 (between 1914 and 1921). The Auto House is a three-bay, flat-roof garage with wood roll-up doors. It is set into an embankent with brick retaining walls on the west and south. The roof has collapsed in the northeast corner adjacent to the mill.

The four-story, flat-roof main tower (20 by 20 feet) contains single windows centered on each elevation of its first three stories. The mill's corbelled cornice is carried around the tower as a string course between the third and fourth stories. Each elevation of the fourth story contains paired round-arch openings with marble keystones and wood louvers. Originally, the tower was capped with a steep, flared hip roof and cupola, which were removed ca. 1927-1929. The interior contains lavatories on each floor and access to the roof from the third floor.

The facade's two smaller stair towers (17 by 17 feet) are identical. Each is three-stories in height with a low-pitch gable roof and contains one loading bay with original paneled, double-leaf doors at each story of the west elevation. A single window is centered at each level in both the north and south side elevations. A timber hoist beam is located in the gable peak of the north tower gable.

The opposite, east elevation, consists of 26 bays south of, and 23 bays plus an end stair tower, north of a central tower. The window and cornice treatments of this elevation are identical to the west facade. The three-story, flat-roof elevator tower (20 by 20 feet; added between 1886 and 1893) has a single window at each level centered in each elevation, with the exception of the north side second and third stories. Sometime after 1929, the second story window of the east elevation was filled in and replaced with an off-center opening to a bridge connected to Building 15, part of the bleaching and dyeing complex. The south end bays of the east elevation are exposed only on the second and third

floor level; earth is banked up against the building in the area of the head race. A free standing steel water tank is located near the mill, immediately south of the central tower, and a small pump house stands just north of the tower.

North of the tower, two bays near north end have been altered (ca. 1900) with the addition of a loading bay on the first floor, and wide, triple-header-course, segmental-arch windows with double sash on the upper levels. A passageway door that connected to the stock house area occupies the bay to the north. The northeast corner of the mill has a three-story, flat-roof stair tower rising from a concrete plinth to a corbelled cornice (added between 1893 and 1905). In constrast to the symmetry of the other towers, this one has, on its east elevation, four different window types (8/8, 6/6, and 12/12 sash) set in segmental-arch surrounds with sandstone sills. The staggered arrangement of the openings reflects the incline of the interior stairs. The north and south elevations are blind, but a bricked-in door exists on the first floor, north side, and a door is located on the first floor, west side.

The south end elevation of the mill is seven bays wide with only the second and third floors exposed above ground level. The building's cornice extends across the heads of the third floor windows. The center two bays at ground level are occupied by an original segmental-arch freight opening with a wood door; the opening to the west is a later addition.

The north end elevation reflects modifications related to the connection of the mill to other parts of the complex. It is six bays wide, with a stepped back, two-bay section at the west corner. All original openings are bricked in. The second bay from the west, first floor, contained a 40-inch round opening that carried steam apparatus from the boiler to the mill. The west corner configuration corresponds to the infilling of the passage between the Picker House and the Engine House section of the mill, and the construction of the round, yellow fire brick chimney (between 1893 and 1905) standing at the exterior of the corner. This elevation was completely covered over by other buildings prior to the 1984 fire.

The Picker House (1867-1868) stands perpendicular to the main mill and is attached at the north end of the mill's west facade. It is nine bays in length (east to west) and four bays in width (north to south), and is identical in detail to the main mill. A fire escape identical to those on the main mill is centered on the south elevation. The north elevation has been modified in relation to the building's prior connections to a Waste House and other structures, now demolished. Only the dust chimney (added between 1886 and 1893) and enlarged as an elevator shaft (ca. 1929) remains. The first floor windows openings are bricked in. A passage door occupies the western bay, and a freight door occupies the bay immediately west of the elevator tower. The west elevation contains a twentieth-century, central loading bay door leading to a ca. 1950 steel and corrugated metal sheathed platform.

Interior

The interior of the Renfrew Manufacturing Company Mill No. 2 consists of open plan industrial space with exposed heavy timber, slow-burning mill framing on three floors. As is common in factory construction technology, the brick walls and the timber framing are progressively lighter on each level. The basement is an approximately four-foot-deep crawl space with an earth floor. A 13-inch thick brick fire wall (added between 1927 and 1929) running east to west divides the building in half on each floor, with corbelled blocks supporting the adjacent cross beams. At either exterior end, wide flathead openings with metal sheathed, weighted sliding doors connect the north and south sections of the mill. The floors are 3 1/2 inches thick and are composed of wide boards (north to south) sandwiched between 2-inch tongue-and-groove flooring (east to west or diagonal) and 4-inch beaded

tongue-and-groove ceiling sheathing (east to west). The interior is in fair to poor condition. The framing is sound, but flooring is warped, buckled, and spongy and has collapsed in several sections on each floor.

The main mill building is basically devoid of machinery. A pile of large rollers at the north end of the first floor; concrete water tanks with pumps, valves, and piping at the south end of the first floor; several dollies and carts; and a conveyor belt connecting the first and second floors at the north end of the building are all that remain.

On all floors, the vertical members are arranged in two parallel rows, spaced approximately 95 inches on center (north to south), creating a center aisle and two slightly wider side aisles. Either square chamfered posts (north half of the building) with square caps, or round columns (south half of the building) with round caps, support chamfered beams with ends set into the brick exterior walls. Anchor bolts through the beams on either side of each vertical support help tie the floor above to the framing structure. Unusual broad S-curved iron angle bracing bolted to the vertical and horizontal timbers appears on the first and second floors, usually on every other post or column.

The first floor south half has 8-inch columns, while the north half has 9-inch posts, each with corresponding dimension beams. The windows are approximately 14-inches deep with wide angled reveals, and the exterior walls are approximately 21 inches thick. The windows of the south end and east elevation southern bays are bricked in. The south half of the mill reflects the building's last function as a maintenance shop and the use of this area as pipe, electrical, machine, and carpentry shops. The major features of this area are three concrete, raised sand filtration tanks with an associated raised wooden access platform, three associated pumps (Warren Co.), standing valves that controlled bottom valves and back wash functions (Ludlow Co., Troy, NY), and large diameter piping. A raised clerestory above the platform and tanks projects into the second floor. The filtration system, installed in 1927-1929, took sediment and turbidity from the pond water, through filter screens in the basement, and further filtered it in the three sand tanks. From there the water was pumped to the holding tower tank on the east side of the mill for distribution to the different areas of production (Jack Cox, Interview, August 25, 1993).

The north half of the first floor in the center section was last used as a stock room and contains a large wood-frame and wire mesh cage. The northern-most seven bays of the mill are separated from the rest of the building by a brick wall. This area was originally the Engine House. A wood-frame enclosure built against the south side of the wall functioned as a shipping office in recent decades. The wall has been modified by the infilling of several segmental-arch door and windows. One segmental-arch door opening remains at each end of the wall. The east door connects the main mill and Engine House; the west door was originally an exterior door and now enters the Picker House.

The Engine House area has experienced the greatest alterations through time of any section of the mill. The original wood framing columns have been removed and replaced with steel columms offset to the east by about two feet, a modification prompted by changes in the use of the space in the early twentieth century. Three windows on the west side, which was originally an exterior wall and now joins the Picker House, are bricked in. The Engine House area contains the remains of the water power system turbine pits, which are visible through a trap door in the floor. A large triple-header-course round-arch opening under the east wall of the Engine House (bricked-in) enters a stone and concrete flume, approximately 220 inches wide. The flume is partially filled with earth and contains iron pipe, reflecting removal of the water power machinery in 1927-1929.

The second floor, south half, is framed with 7-inch columns, 8 by 12-inch beams, and angle bracing.

The exterior walls are 16 inches thick with 14-inch deep windows and angled reveals. A temporary wood-frame partition sheathed in composite board occupies the southern seven bays. It contains a low, raised platorm that is located above the water filtration tanks on the first floor. The vertical walls have beaded board siding and five-light windows. An original segmental-arch freight door is centered in the south end wall, and a later loading door occupies the two bays west of center.

The second floor, north half, contains 8-inch posts, 8 by 12-inch beams, and angle bracing. The northern end above the engine house shows evidence of some rebuilding with round wood columns, and steel I-beam reinforcement. The area adjacent to the original exterior brick wall of the Picker House has pieced beams with reinforcement and round columns, dating from between 1893 and 1905 and the removal of the mill structure brick work to create a direct linkage to the Picker House. A conveyor apparatus cuts through the floor to the first level in this area. Nine bays along the east side of the building are incorporated into a wood-frame office area.

The third floor, south half, contains 7-inch columns supporting the exposed roof truss. The roof truss consists of chamfered principle rafters which are joined at the peak and bolted with a tie road at the center through the tie beams below. Paired bolts anchor the rafters to the beams at each outside end. Short 4 by 4-inch chamfered posts above each main post provide additional support. The roof sheathing is composed of 12-inch wide tongue-and-groove boards laid on the rafters. The windows on this floor have straight reveals set into the 12-inch thick brick exterior walls.

The north half is identical to the south half in its roof framing and windows. As on the other floors, 7-inch square posts form the vertical supports. The northern end above the Engine House reveals the framing of the original Engine House roof (which was one bay narrower than the mill) and modifications to integrate the two roofs in the early twentieth century. The changes related to connecting the picker house and engine house are also evident in the presence of heavier, 8-inch posts and pieced beams.

Mill No. 2 contains a total of five exterior towers located on the west and east elevations. The interior of the center tower on the west facade contains lavatories with exposed brick walls and functional finishes. The interior of the north and south stair towers of the west facade are identical. They contain staircases set against the north wall, with hallway/landing space to the south. The closed stringer stairs are composed of a straight run with quarter-turn angled risers at the top and bottom with tall 6-inch diameter newels, beaded sheathing, and unpainted handrail. A pipe rail is attached to the brick wall. Double leaf, six-panel doors with strap hinges connect the stair tower to the main mill. The east side towers consist of an elevator tower at the center and a stair tower at the northeast corner with wood-frame dogleg stairs and landings.

The interior framing of the Picker House is nearly identical to the main Mill No. 2 in most respects, although the construction is slightly lighter. The heavy timber framing consists of a single row of square chamfered piers, with timber angle bracing on two sides, running west to east down the center of each floor. On the first floor, the 8-inch posts include three posts offset three feet to the south near the east end, where a steel post and I-beam mark the location of the original exterior wall. A conveyor belt connected to the second floor is located against the south wall, and an elevator is on the north wall. The most striking feature of the first floor is a floor scale with cast iron fluted columns, located just west of the elevator. On the second floor the framing is 7-inch round columns with steel cap plates and angle bracing. Windows have straight reveals. A short ramp accomadates the 6-inch height up to the main mill floor. The third floor is similar to the second floor. Here, the exposed shallow pitched roof framing is composed of principle rafters and tie beams that are double notched together at either end. The ridge line is just north of the line of columns so that tie bolts could be anchored to the beams. The bolts have been cut off and replaced with wood supports.

II. HISTORICAL INFORMATION

European settlement of the northern Berkshire region, hampered by the area's rugged topography and remote location, did not begin until the mid-eighteenth century. The towns of Adams and North Adams comprised East Hoosic, or Township No. 1, a seven by five mile tract, laid out in 1749 along both sides of the Hoosic River. Initial settlers were tradesmen and farmers and concentrated in the "South End" (Adams) where the agricultural soils were best. Adams was incorporated in 1778 and derived its name from Governor Samuel Adams (Lockwood 1926; Beers 1885; Yoemans 1829).

The town's first textile mill opened in 1811, ushering in a period of expanding industrial development that continued through the nineteenth century. By 1847, Adams had 19 cotton mills, four satinet factories, and two calico printing shops, as well as non-textile factories strung out along the river and its tributaries (Beers 1885; Hayward 1847). Construction of railroad lines beginning in 1842 greatly improved transportation and spurred industrial growth, particularly during and after the Civil War. The Renfrew Manufacturing Company was a product of this period of expanding textile manufacturing in the Berkshires, and Renfrew also referred to the hamlet that grew up around the mill. During this period, the northern section of Adams emerged as a major manufacturing and commercial center and was set off as the separate town of North Adams in 1878.

The Renfrew Manufacturing Company was organized on May 5, 1867 with an authorized capital of $100,000 for the production of cotton cloth. Its founders and officers were Levi L. Brown, president, James C. Chalmers, clerk and treasurer, and Lewis N. Gilbert, George H. Gilbert (both of Ware, Mass.), James Renfrew, and Edward F. Jenks, directors (Davis 1897, p. 2033). The name was likely a reference to Renfrew County, Scotland, the birthplace of several partners. The company purchased the firm of William Pollock and Company which operated a cotton spinning mill on Columbia Street known as the Stone Mill or Broadley Mill (built 1846). This firm was composed of William R. Pollock of Pittsfield and James Renfrew and James C. Chalmers of Adams. Wm. Pollock and Company had previously purchased farmland from Abram Anthony, uncle of noted women's suffrage leader, Susan B. Anthony (1820-1906), on the west side of the Hoosic River adjoining the Boston & Albany Railroad tracks. Here, they had laid a foundation for a new mill for the production of cotton yarns and fabrics. This building became the Renfrew Manufacturing Co. Mill No. 2 (Renfrew Review Vol. 3 No. 12, 1920; Wilks 1945, p. 161).

The key figures in the company were James Renfrew and James C. Chalmers, who brought extensive textile manufacturing experience, and Levi L. Brown a prominent local industrialist and businessman. Both James Renfrew (August 18, 1840 - September 28, 1900) and James C. Chalmers (b. September 9, 1840) were born near Barr Head, Renfrewshire, Scotland. Their families emigrated to Adams in 1849. Renfrew entered employment as the book-keeper of the Taconic Mills Company, Pittsfield. About 1864, he returned to Adams to oversee the dye house at the Broadley Mill, then owned by William Pollock. He subsequently became superintendent of the mill and a member of the firm. Chalmers worked in the offices of William Pollock and L. Pomeroy Sons of Pittsfield, then was employed by the Taconic Mills in Pittsfield from 1857 to 1862. During the Civil War, he served in the 37th Regiment of Massachusetts Volunteers and was discharged in 1864 after being severely wounded in the Battle of the Wilderness. Entering the employ of William Pollock and Company, he was made a member of the firm in 1865. With the death of Pollock in 1866, Renfrew and Chalmers entered into a new venture to fund the mill underway on Columbia Street. Renfrew served as agent, responsible for management, and later as agent and treasurer, a position he held until his death. Chalmers served as the treasurer until 1885 and from 1885 until his death as vice-president. Both men also held officer positions in the First National Bank of Adams and the South Adams Saving Bank; Renfrew was President of Holyoke Warp Company, and a director of the Fitchburg Railroad (Renfrew Review Vol.

4 No. 1, 1921 and Vol. 4 No. 4, 1921; Pittsfield Sun Oct. 4, 1900).

Born in Adams to Mr. and Mrs. William Brown, Levi L. Brown (May 20, 1826 - August, 1901) was an established local manufacturer with numerous and diversified business interests. Following a tenure at the paper mill of Zenas Crane in Dalton, he returned to Adams in 1848 and founded L.L. 8rown & Co., papermakers. The company reorganized in 1873 as the L.L. Brown Paper Company. It manufactured high-quality ledger papers and was a major local industry by the 1860s. L. L. Brown served as the first president of the Renfrew Manufacturing Company from its founding to 1891. One of his daughters married into the Gilbert family of Ware, and another married Emil Kipper of Adams, who continued to be involved in the company (Jenkins and Pfeiffer 1982; Renfrew Review Vol. 4 No. 4, 1921; Pittsfield Sun Aug. 29, 1901).

The Renfrew Manufacturing Company constructed Mill No. 2, a smaller Mill No. 1 northeast of Mill No. 2 (demolished), along with ancillary buildings and a large holding pond on the former farmland between Columbia Street and the Hoosic River. At the same time, eight long buildings containing eight to 26 units of workers' housing (mostly extant) were erected to the south lining Columbia Street. A house later occupied by superintendent J. N. Sanderson in the 1890s (see below) was located between Columbia Street and the railroad near the south end of Mill No. 2 (demolished and site occupied by a convenience store/gas station). The pond drew water, for power and processing, through an underground pipe from the Hoosic Pond/Reservoir south of the property, and tailrace water channeled back to the South 8ranch of the Hoosic River north of the mill (Beers 1876; Miller 1894).

In 1868, the capitol stock was increased to $200,000 and in 1875, to $500,000. The company also operated the Broadley Mill, a Spinning Mill in Dalton, as well as several other mills in Adams acquired during a period of expansion in the 1880s and 1890s. A separate corporation formed in 1881 as the Renfrew Mills Company and composed of Levi L. 8rown, James Renfrew, James C. Chalmers, W. 8. Wood, and 8. E. Kingman constructed the No. 5 Mill (Jacquard Mill) for colored damasks on River Street. It also equipped the Turkey Red Dyehouse on Dean Street and purchased a former woolen spinning mill at Maple Grove known as the No. 6 Mill (Grove Mill) in the early 1880s. Renfrew Mills Company was absorbed by the Renfrew Manufacturing Company in 1883, again increasing the capital stock to $1,400,000 (Renfrew Review Vol. 3 No. 12, 1920; Jenkins and Pfeiffer 1982; Wilk 1945, p. 161-162).

In the late 1890s, the company had a capital of $200,000, operated six mills, and employed 900 hands in the manufacture of dress warps, Turkey red damask, and ginghams. Powered by steam and water, the mills as a group were equipped in part with 23,552 rug and 10,042 mule spindles and 1,100 gingham and 150 damask looms. The officers were James C. Chalmers, vice president, James Renfrew treasurer, and J. N. Sanderson, superintendent. At this time, Renfrew Manufacturing Company was one of four principal industrial concerns in the town of Adams. The other three consisted of W.C. Plunkett & Sons, founded 1829, manufacturers of cotton warp; Berkshire Cotton Manufacturing Company, organized in 1889 for the production of fine cotton lawns, sateens, and organdies and one of the largest firms in the region; and the L.L. Brown Paper Company of 1849 (Ibid).

In the first decade of the twentieth century, Renfrew Manufacturing Company divested itself of its older and less critical manufacturing properties. Bewtween 1900 and 1909, the Dalton Mill was sold to the Crane Paper Company, and the Turkey-Red Dyehouse and the original Broadley Mill were also sold. Production consolidated in the remaining main factories, Mill No. 2, Mill No. 5 (Jacquard Mill), and Mill No. 6 (Grove Mill) (Wilks 1945, p. 162). At the turn of the century, Mill No. 2 is reported to have contained 30,000 spindles. An advertisement in the National Loom Fixers Association of America Official Manual of 1914-1915 offered Devonshire Cloth, Madras, Standard Colored Damask, and

Bleached Damask, as well as colored and grey warp yarns (NLFAA 1914-1915, p. 74-75). In 1920, Renfrew Mill No. 2 was equipped with 1992 looms and 36,000 spindles, with dye house and finishing works. The products included colored and bleached table damask, and table cloths, ginghams, madras, and colored wash goods, as well as colored and grey yarns (Renfrew Review Vol. 3 No. 12, 1920).

The Renfrew Manufacturing Company's cloth products were always sold through New York commission houses. In the 1890s, Emil Kipper (son-in-law of L.L. Brown), 317 Broadway, New York served as agent, and P. Van Volkenburg & Co. of New York served as selling agents (Davis 1897, pp. 2032-2033). In 1920, the agent was Messrs. F.U. Stearns & Company (Renfrew Review Vol. 3 No. 12, 1921).

The early twentieth century was an important period in the history of the company's treatment of its employees. Housed in company-built housing near the mill, the residents were served by a company store, a community house, athletic fields, school, and railroad station. From 1918 to 1924, community spirit among employees was reflected in the publication of the Renfrew Review, a monthly magazine by the mill and office employees.

The fortunes of the Renfrew Manufacturing Company waned in the 1920s for reasons that are not well documented in secondary historical sources. Most likely, the general decline of the northern textile industry in the face of comeptition from southern states, along with the nationwide economic downturn were factors in the company's demise. In November, 1927, the Renfrew Manufacturing Company properties were sold at auction in separate parcels by the auction house of Samuel T. Freeman & Co. The company's president at the time was Donald M. Hill. The auctioneer's notice states that a suit had been brought by Abraham Stein of Adams against the company for breach of contract, a charge the company was vigorously defending. As compensation, Stein sought conveyance of the mill's tenement property. The manufacturing real estate comprised Mill No. 2 and Mill No. 5, and were described: "The Mills consist of two groups of brick manufacturing buildings of heavy mill construction, with all modern factory conveniences -- steam, electric and water power, sprinkler systems, electric light, toilets, wash-rooms, etc. Good natural light, ample supply of excellent water for processing" (Freeman & Co., 1927). Machinery and equipment was sold separately from the real estate. Prior to the auction, the rights to the Renfrew Manufacturing Company's name, trade marks, lists of customers, formulas, etc. had already been sold. Woodward Baldwin & Company of New York purchased some machinery and the rights to the name of Renfrew Madras Devonshire cloth, and equipped a newly built mill in Greenville, South Carolina for production (Freeman & Co., 1927; Wilk 1945, p. 162-163).

Thus 1927 marked the end of the Renfrew Manufacturing Company's existence and the termination of the mill as a spinning, dyeing, and weaving plant. In its 59 years of operation from 1868 to 1927, the company could claim being one of the first and most highly regarded producers of cotton gingham cloth in the country, a major manufacturer within the town of Adams and the Berkshire region, and one of the largest producers of table damask, crinkled bed spreads, draperies, and towels in the country (Freeman & Co., 1927; Wilk 1945, p. 163).

The purchaser of the Renfrew Mill No. 2 in 1927 was the Arnold Print Works Company, a well established firm based in North Adams and instrumental in the nineteenth-century growth of that town. Oliver, Harvey, and John F. Arnold began printing patterns on fabric manufactured in northern Berkshire mills in 1861. Although the company suffered a major fire in 1872 and filed for bankruptcy in 1876, by the end of the nineteenth century it owned a number of mills that supplied it with business (e.g., Greylock Mills in North Adams and Williamstown; Beaver Mill in North Adams; and Eclipse Mill in North Pownal, Vermont).

The twentieth-century history of Arnold Print Works followed the pattern seen throughout Berkshire County and the northeast, as the textile industry tradition was sapped to the southern states, and later to foreign competition. In 1907, Arnold Print Works was placed into receivership and was subsequently reorganized in 1909 when most of its cotton spinning operations were sold. With the acquisition of the former Renfrew Manufacturing Company's Mill No. 2, Arnold Print Works established the Jones Division under Mr. Samuel Jones of North Adams, president. Installing practically all new equipment, the division printed percales, mohair, linen, glazed chintz, and draperies (Wilk 1945, p. 163; The Transcript May 25, 1982).

In 1935, the Arnold Print Works was reorganized under U.S. Bankruptcy laws. Although business boomed in 1941 with 500 employed in Adams and 1,100 employed in North Adams, shortages during World War II caused the directors to liquidate the business and dissolve the corporation on May 1, 1942. The Jones Division was purchased by Aspinook Corporation in 1942. In 1952, it was sold to William Whitman, Inc., whose owner, Albert List, later acquired the United States Finishing Company. Arnold Print Works remained the informal designation for the division of the company that was formally USF-Aspinook. It then became a susbsidiary of Gera Corporation, also under the control of Albert List.

In 1960, Indian Head Mills of New York City bought the USF-Aspinook Division from Gera. It included the Adams plant and a Hartsville, South Carolina plant. The Adams plant was renamed Bancroft-Arnold Finishing Company, after Indian Head moved its operations from Eddystone, Pennsylvania to Adams. On May 12, 1967, Indian Head announced that, due to insufficient profits, the Bancroft-Arnold plant, employing more than 500 workers, would close if it could not be sold (The Transcript May 25, 1982).

In the fall of 1967, the company returned to local ownership for the first time since 1942. With the assistance of a $682,500 loan from the federal Economic Development Administration, the company was purchased by the Wineburg and Ginsburg families, Walter J. Donovan, J. Norman O'Connor, and J. Haines Spencer. The newly reorganized company was renamed Arnold Print Works, Inc. and operated as a commission finisher, printing and processing cloth for slipcovers, draperies, dresses, shirtings, etc. The company invested more than two million dollars in new screen printing, bleaching, and finishing tenter frame equipment and was highly regarded for the quality of its work (Arnold Print Works, Inc., n.d.). Despite these improvements, however, the plant faced substantial obstacles to continued successful operation. It was hampered by it's relative distance from the source of materials and its customers and its traditional reliance on roller printing (which was more expensive, but higher quality than screen printing), despite the specialized and highly demanded nature of its products. Furthermore, the production restrictions inherent in the older plant, which could not compete with newer vertically integrated plants, and, finally, competition from the South and abroad, brought the company to bankruptcy and it filed on June 26, 1981. Although reorganized in 1983, Arnold Print Works, one of the last remaining textile concerns in the Berkshire region, ended production and closed its doors June, 29, 1984 (The Transcript May 25, 1982, July 5, 1984). The contents of the buildings were auctioned by a Boston firm on October 10-12 and one month later, on November 24, 1984, the vacant plant suffered a major fire which destroyed all but the Renfrew Mill No. 2 and six secondary buildings (The Sunday Republican November 25, 1984).

Arnold Print Works remained one of the nation's most prominent textile printing firms until its final closure in 1984. It was particularly noted for the quality and workmanship of its cotton textiles and its ability to meet the most stringent standards and special requests of clients such as Waverly, Schumacher, and Cherokee. It used a combination of old equipment, some steam powered long after the introduction of electricity, and a highly skilled work force to produce superior goods that set the standard for the industry (Jack Cox, Interview, August 25, 1993).

III. SOURCES

Location: Adams Historical Society, Adams Memorial Library, Adams, MA [AHS]; Museum of American Textile History, 800 Massachusetts Avenue, Andover, MA [MATH]; Northern Berkshire Industrial Park & Development Corporation, 40 Main Street, North Adams, MA [N8IPDC]; 8erkshire Athenaeum, Pittsfield, MA [8A]

A. Historic Maps and Plans

1853 South Adams, Berkshire County, Massachusetts. Surveyed and published by Thomas and John Slator, Hoboken, NJ. [wall map; AHS]

1876 County Atlas of Berkshire Massachusetts. F.W. Beers, New York. [AHS]

1878 Barlow's Millyard Insurance Plan #5245, "Renfrew Gingham Mill", April 1878. [referenced in National Register nomination; repository location not identified]

1894 Atlas of the Town of North Adams, Adams, Williamstown, and Cheshire, 8erkshire County, Massachusetts. D.L. Miller & Co., New York, NY. [AHS]

1927 The Real Estate of the Renfrew Manufacturing Company. Samuel T. Freeman & Co., Auctioneers Notice. [AHS]

1957 List Industries Corporation et al, Adams, Massachusetts. Surveyed by F.P.O. Potter Dec. 18, 1929, Survey Amended May 19, 1949, Revised From Department Files, 3-25-57. Serial Number 3543O-R replacing 21741. Associated Factory Mutual Fire Insurance Companies, Norwood, Mass. [NBIPDC]

1967 Arnold Print Works, Inc. No source or title; photocopy. [AHS]

B. Historic Views [all AHS]

ca. 1868 Photo. Stereoscopic view of Mill No. 2 and Picker Room looking north; central tower roof under construction and no windows yet installed in Picker Room. Cheshire Valley Series, published by W.P. Hurd, North Adams, MA.

ca. 1905 Photo. Panoramic view from hill east of mill looking northwest over Renfrew Manufacturing Company complex and housing. Only view known showing original square chimney, prior to addition of round chimney (ca. 1915).

1918 Photo. View of mill looking northwest from hill east of mill.

1918 Photo. View of mill looking east from hill on west side of Columbia Street.

1918 Photo. Picker Room; first floor, view northwest; used in Renfrew Review October 1918.

1918 Photo. View of Card Room; first floor view south in north half; used in Renfrew Review

November 1918.

1918 Photo. No. 2 Drawing Room; first floor view looking south from south end of north half before installation of fire wall; used in Renfrew Review, Dec. 1918.

1919 Photo. View of Warping Department; third floor view south in south half; used in Renfrew Review February 1919.

1919 Photo. Spinning Room No. 2 Mill; second floor view north in north half; used in Renfrew Review January 1919.

ca. 1920 Photo. View of mill looking northwest with ball field in foreground.

ca. 1950 Photo. Aerial view of mill complex looking north.

C. Negatives [insurance plans; poor condition; all AHS]

1886 Renfrew Manufacturing Company Gingham Mill or No. 2, Renfrew, Adams, MA; scale 1' = 60'; Env. No. X162, January 1886.

1893 Renfrew Manufacturing Company Mill No. 2 (Cotton Factory), Adams, Mass. [Renfrew Village] scale 1" = 50'. Surveyed by A.A. Platts. Associated Mutual Insurance Companies Serial No. 3395; Env. No. X181, March 10, 1893.

1893 Renfrew Manufacturing Company Mill No. 3 (Dye Works), Adams, MA, AMIC Index No. 3397, March 15, 1893.

1905 Birds Eye View. Renfrew Manufacturing Company Mill No. 2 (Cotton Mill), Adams MA. For Plan See Serial 14525; For Tenement Plan see Serial 14527. ([two copies]

1905 Plan. Renfrew Manufacturing Company Mill No. 2, Adams, MA, AMIC 7389 Index No. 2818

Both Env. X180 Nov 8 1905

1914 Renfrew Manufacturing Company Mill No. 2, Adams MA; Serial 11526; Index 10010, Env. X187, April 24, 1914.

1919 Renfrew Manufacturing Company Mill No. 2, Tenements, Adams, MA; AMIC Serial 13452; Index 10010. Env. X185, July 18, 1919.

1921 Arnold Print Works (Bleachery and Dye Works) Adams, MA; Serial 14525; Index 10010; Env. X177, July 15, 1921.

1921 Renfrew Manufacturing Company "Mill No. 2" Tenements, Adams, MA. Serial 14527, Index 10010, Env. 184, July 15, 1921.

1929 Arnold Print Works "Jones Division" Bleachery and Print Works, Adams MA. Plan scale 1:60.; Serial 21741; Index 10010; Env. X175; December 18, 1929.

1929 Arnold Print Works "Jones Division "8leachery and Print Works, Adams, MA. Birds Eye View. Serial 21742; Index 10010; Env. X176; December 18, 1929.

C. Bibliography

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Anon. History of Renfrew Manufacturing Co. Renfrew Review. Vol. 3 No. 12, December 1920. [AHS]

Anon. History of Renfrew Manufacturing Co. Renfrew Review. Vol. 4 No. 1, January 1921. [AHS]

Anon. L.L. Brown. Renfrew Review. Vol. 4 No. 4, April 1921. [AHS]

Anon. James Renfrew Obituary, Pittsfield Sun, October 4, 1900, p. 5. [BA]

Anon. Levi L. 8rown Obituary, Pittsfield Sun, August 29, 1901, p. 4. [BA]

Arnold Print Works, Inc. 8rochure, n.d. [ca. 1970]. [AHS]

Arnold Print Works, Inc. Ring Binder "Historical Notebook", n.d. [ca. 1970]. [AHS]

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Berkshire County Eagle, April 22, 1869. [AHS]

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Northern Berkshire Industrial Park & Devlopment Corporation. Request for Proposals, Renfrew Mill Redevelopment Project, Adams, Massachusetts. North Adams: NBIPDC, February 1991. [NBIPDC]

Renfrew Review. Vol. 1 No. 1, January 1918 through Vol. 6 No. 12, December 1924. [AHS]

Stone, Ora L. History of Massachusetts Industries. Boston: S.J. Clark Publishing Co., 1930.

The Sunday Republican November 25, 1984. [AHS]

The Transcript May 25, 1982. [AHS]

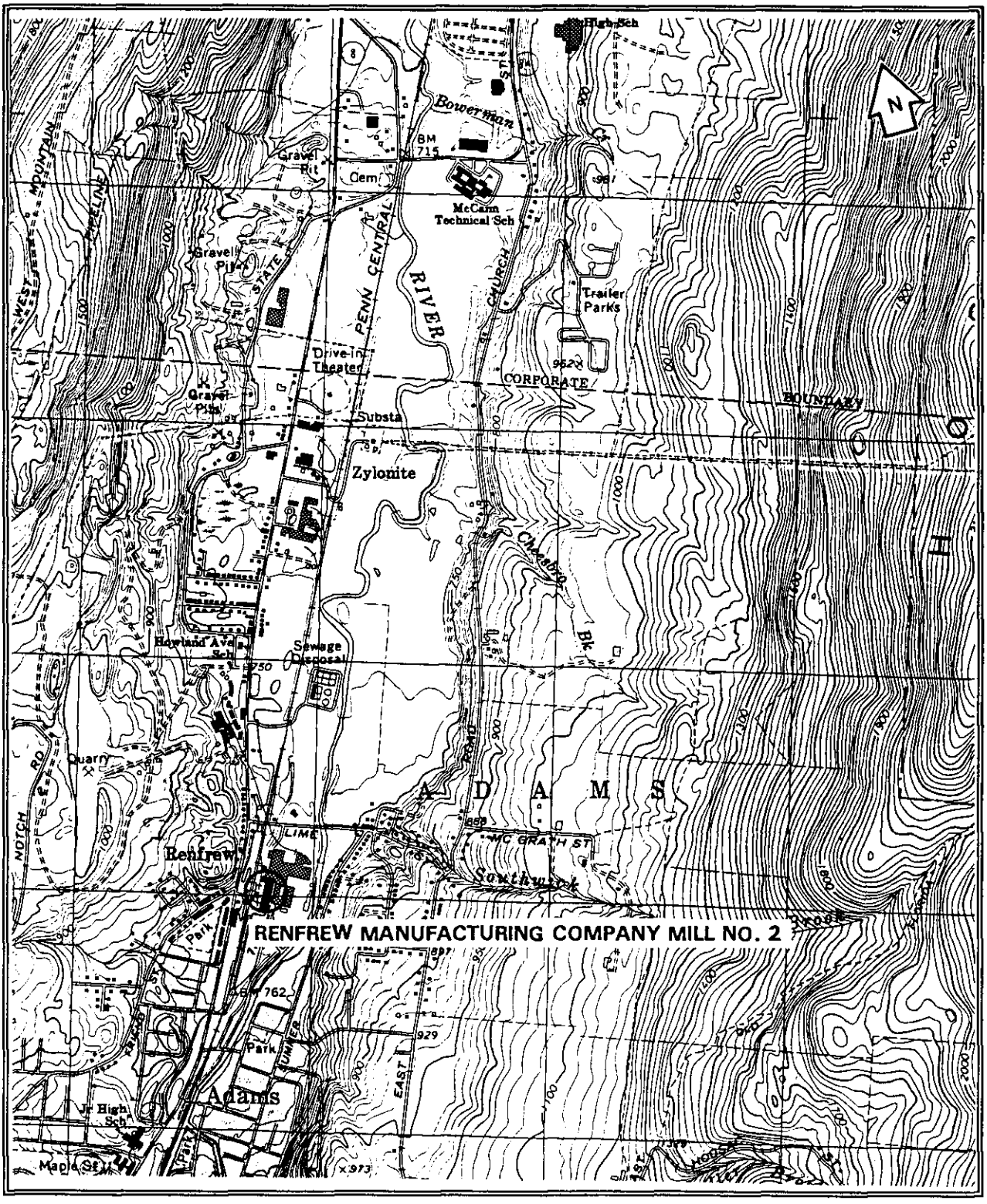
The Transcript July 5, 1984. [AHS]

Wilk, Joseph Addison. A History of Adams, Massachusetts. A Thesis presented to the Faculty of the Graduate School of Arts, the University of Ottawa, Ottawa 1945. [BA]

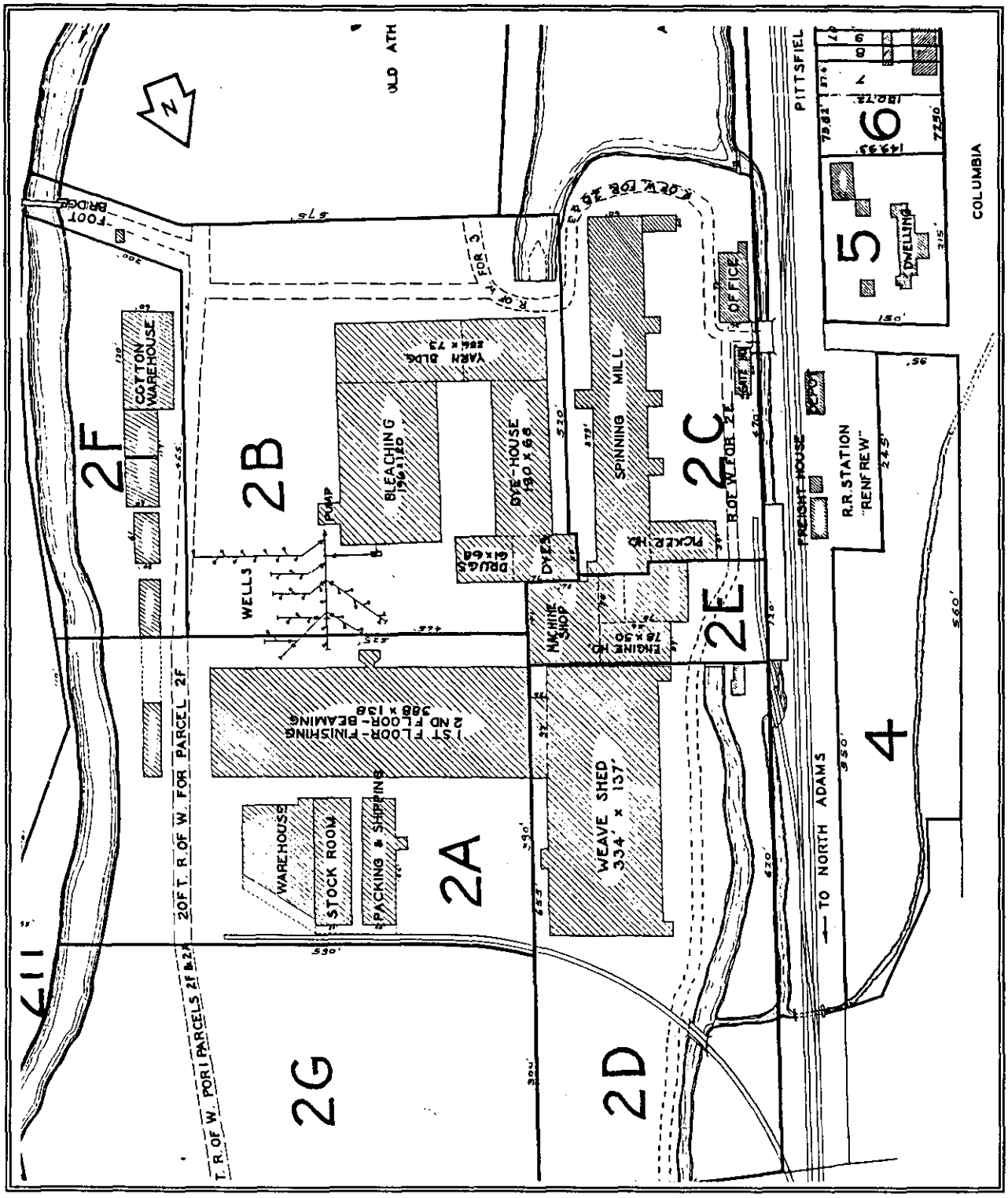
E. Interviews

Jack Cox, former Plant Engineer. Telephone interview with author, August 25, 1993.

LOCATION MAP (USGS North Adams, MA-VT)



SITE PLAN, 1927 (Samuel T. Freeman & Co., Auction Notice, 1927)



MILL No. 2 FLOOR PLAN SKETCH (adapted from List Industries Insurance Plan, 1957)